Title: Marfan Syndrome *GeneReview* – Management: Animal Models and Losartan
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Note: The following information is provided by the author and has not been reviewed by *GeneReviews* staff.

Animal Models – Use of Losartan

Studies in animal models of Marfan syndrome demonstrated excessive activation of and signaling by the growth factor TGFβ. Systemic administration of TGFβ antagonists can attenuate or prevent many disease manifestations in fibrillin-1-deficient mice including emphysema, skeletal muscle myopathy, myxomatous valve disease, and aortic aneurysm. Losartan, an angiotensin II type 1 receptor blocker, can also decrease TGFβ signaling. Losartan has shown the ability to halt abnormal aortic root growth in mouse models of Marfan syndrome [Habashi et al 2006]. This effect associates with both a reduction in hemodynamic stress and antagonism of TGFβ signaling in the vessel wall.

References

Habashi JP, Judge DP, Holm TM, Cohn RD, Loeys BL, Cooper TK, Myers L, Klein EC, Liu G, Calvi C, Podowski M, Neptune ER, Halushka MK, Bedja D, Gabrielson K, Rifkin DB, Carta L, Ramirez F, Huso DL, Dietz HC. Losartan, an AT1 antagonist, prevents aortic aneurysm in a mouse model in Marfan syndrome. Science 2006;312:117-21.